



IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

DECLARATION UNDER 37 C.F.R. § 1.131

1. I, Kenneth E. Cooke, 2613 Boyer E, Seattle, Washington, 98102, am the sole named inventor of the subject matter claimed in U.S. patent application No. 09/300,798, filed April 27, 1999 and titled "System And Method For Cross-Fading Between Audio Streams."
2. At least as early as September 14, 1998, I prepared cross-fading source code and provided the source code to Rahul Agarwal, as set forth in the attached Declaration by Rahul Agarwal, which is identified as Exhibit 1. Rahul Agarwal assisted in the integration and testing of the source code.
3. The information set forth in Exhibit 1 establishes that the cross-fading code worked for its intended purpose at least as early as September 14, 1998.

Penalty of Perjury Statement

I declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful, false statements and the like so made are punishable by fine and imprisonment, or both, under Section 10001 of Title 18 of the United States Code and that such willful, false statements may jeopardize the validity of the application or document or any patent resulting therefrom.

Dated: November 22, 2002

By: \_\_\_\_\_

*Kenneth E Cooke*

Kenneth E. Cooke

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

**DECLARATION UNDER 37 C.F.R. § 1.131**

1. I, Rahul Agarwal, of 370, Datewood Court NW Issaquah WA 98027 USA, assisted the inventor, Ken Cooke in building an implementation of the invention claimed in U.S. patent application No.09/300,798, filed April 27, 1999 and titled "System And Method For Cross-Fading Between Audio Streams".
2. At least as early as September 14, 1998, I, received cross-fading source code from Ken Cooke and then integrated such code into a cross-fading system for RealNetworks, Inc. Such cross-fading system, was built and tested by myself (or a team with whom I worked) and included functionality that cross-faded between audio streams on a client computer. Using the software cross-fading system, a first audio data representing a time period  $t_1$ , was sampled and compressed at a first target sampling (and compression) rate of the original audio signal. This compressed first audio data was received in a receive buffer and the first audio data was contained within the first stream. The first audio data was decoded by decompression to generate first audio samples. A second audio data representing a time period  $t_2$  of the original audio signal and sampled (and compressed) at a second target sampling (and compression) rate different from the first target sampling (and compression) rate was received in the receive buffer. The second audio data was from the second stream. The time period  $t_1$  and  $t_2$  overlapped by a time period  $t_3$  in the original audio signal. The second audio data was decoded by decompression to generate second audio samples. The second audio samples were resampled in accordance with the first target sampling rate to generate second resampled audio samples, where each of the second resampled audio samples substantially corresponding in time to a respective one of the first audio samples to form a sample pair. Each sample pair was cross faded corresponding to a time within the time period  $t_3$ , by applying a first cross-fade weight to a first sample of the sample pair to obtain a first contribution, by applying a second cross-fade weight to a second sample of the sample pair to obtain a second contribution, and by combining the first and second contributions.
3. Appendix A includes portions of cross-fading source code dated at least as early as September 14, 1998, and Appendix B includes code that integrated the cross fading source code

dated at least as early as September 14, 1998. Appendix C includes a text file of a CVS Version Control System Log listing the software changes of code that integrated the cross fading source code that were included in the software cross-fading system and that were used to perform the cross-fading of audio streams on a client machine. The source code in Appendix A and B were built and tested as early as September 14, 1998. Appendix A - C show that the software cross fading system was in existence at least as early as September 14, 1998.

4. I successfully tested the cross fading source code by executing it in a RealNetworks RealPlayer using RealNetwork's SureStream RealAudio content file at least as early as September 14, 1998.

Penalty of Perjury Statement

I declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful, false statements and the like so made are punishable by fine or imprisonment, or both, under Section 10001 of Title 18 of the United States Code and that such willful, false statements may jeopardize the validity of the application or document or any patent resulting therefrom.

Dated: 11/21/2002 By: Rahul Agarwal  
Rahul Agarwal